ABSTRACT OF THE DISCLOSURE

A system and method that efficiently, accurately, and simply detect reliably least-significant-bit ("LSB") embedding of a secret message in randomly scattered pixels. The system and method apply to both 24-bit color images and 8-bit grayscale or color images. Many commercial steganographic programs use Least Significant Bit embedding (LSB) as the method of choice to hide messages in 24-bit, 8-bit color images and in grayscale images. They do so based on the common belief that changes to the LSBs of colors cannot be detected because of noise that is always present in digital images. By inspecting the differences in capacity for lossless (invertible) embedding in the LSB and the shifted LSB plane, the present invention reliably detects messages as short as 1% of the total number of pixels (assuming 1 bit per sample). The system and method of the present invention are fast, and they provide accurate estimates for the length of the embedded secret message.